ABSTRACT

A subscriber unit implementing physical layer automatic repeat request includes a transmitter and a receiver. The transmitter has a physical layer transmitter for receiving data, formatting the received data into packets transmitting the packets, and retransmitting packets in response to failure to receive a corresponding acknowledgment for a given packet; an acknowledgment receiver for receiving the corresponding acknowledgment; and an adaptive modulation and coding controller for collecting retransmission statistics and adjusting the particular data encoding/modulation using the collected statistics. The receiver has a physical layer receiver for demodulating the packets; a combiner/decoder for buffering, decoding and detecting packet errors; and an acknowledgment generator for generating an acknowledgment for each packet if that packet has an acceptable error rate.